

TABLE 2. PROPOSED SOUTHEAST ASIAN COASTAL, MARINE AND SMALL ISLAND SITES FOR WORLD HERITAGE LISTING.

COUNTRY AND SITE	GENERAL PHYSICAL DESCRIPTION	MARINE BIODIVERSITY VALUE	CONSERVATION MANAGEMENT	MANAGEMENT CONSTRAINTS AND ENVIRONMENTAL THREATS	ENVIRONMENTAL MONITORING	ASSOC. WITH NGOS
Laut Banda Marine National Park INDONESIA	2,500 ha. Located in the center of the Banda Sea. Volcanic islands with Banda Besar having the greatest reef development. Historical value linked to its role as the Spice Islands.	High marine biodiversity with reefs largely undisturbed. Rare and endangered species include giant clam, horseshoe clam and hawksbill turtle.	Declared in 1977 as a National Recreation Park. No management plan in place.	Lack of management capacity.		
Bunaken Marine National Park INDONESIA	79,056 ha. Includes 5 major islands with fringing reefs. Barrier and patch reef development. 1800 ha of mangroves along mainland portion of Park.	58 genera of hard coral and 2000 species (175 families) of reef fish recorded. Unique species include the tiny pygmy seahorse and ghost pipefish. Most significant is the confirmed presence of the coelacanth, genetically distinct from the East African species. The Park is along the migration paths of whales and dolphins. Dugongs are associated with the seagrass beds. Black-crested macaques present	Formally established as a National Marine Park in 1991. Management plan developed by USAID Natural Resources Management Program and regional Forestry and Planning Authorities implemented in 1998.	Poor management by dive industry led to anchor damage. Reef deterioration also caused by heavy fishing, reef gleaning by local communities, urban expansion of nearby Manado, agricultural run-off. Management now appears effective in combating destructive fishing, regulating dive tour operations and directing commercial shipping away from Bunaken waters.	Involvement of local communities and dive operators in surveillance against offending parties.	Local environmental NGOs invited to regular meetings on Park management and benefits. Private sector involvement started with inclusion of North Sulawesi

		in forests of Manado Tua.				Watersports Association as dialogue partner. USAID Natural Resources Management Program continues to provide support through Proyek Pesisir (Coastal Resources Management Program).
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<p>Teluk Cenderawasih Marine National Park</p> <p>INDONESIA</p>	<p>1.45 million ha. Wide variety of marine and coastal habitats – reefs, mangroves, seagrass beds. Nearby Kepulauan Padaido, also with rich reefs, is 183,000 ha.</p>	<p>High coral diversity. Endangered species include dugongs, hawksbill and green turtles, giant clams, triton, trochus. Rich fishery resources with high education and research potential. Within the same area is Kepulauan Padaido, a large National Recreation Park near the Biak islands. Padaido's biodiversity makes it natural to consider clustering it with Cenderawasih. Padaido has a historical link with World War 2. More than 200 species of hard corals and 100 species of reef fish have been recorded from Padaido.</p>	<p>Declared in 1990 as a National Marine Park. It is the largest of Indonesia's National Marine Parks. Parks Management Plan implemented.</p> <p>Kepulauan Padaido was declared in 1997 as a National Recreation Park, but no management plan has been implemented.</p>	<p>Telok Cenderawasih is largely undeveloped and environmental threats are not serious.</p> <p>Destructive fishing introduced to Padaido resulted in great destruction of some reefs, but the threat appears to be declining with ecotourism development. An earthquake and tidal wave in 1996 resulted in much of the natural destruction of reefs. Ecotourism led to some initial conflicts with locals by restricting access to traditional fishing grounds, but community-based management has reduced the problem.</p>	<p>Monitoring of Cenderawasih carried out by Park officials, but hampered by lack of funding.</p> <p>Padaido is a COREMAP location and monitoring data are available.</p>	<p>Not known for Cenderawasih. At Padaido, a Biak-based community-development NGO assists locals by promoting sustainable use and community participation in ecotourism. Assistance is provided by USAID-funded Biodiversity Support Programs Biodiversity Conservation Network. Training in monitoring provided by Yayasan Hualopu and Canadian Universities Service Organisation.</p>
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<p>Turtle Islands Heritage Protected Area</p> <p>PHILIPPINES and MALAYSIA</p>	<p>Area covers three Malaysian and six Philippine islands in the Sulu Sea.</p>	<p>Important nesting site throughout the year for green and hawksbill turtles. Commercially-important fish such as lutjanids, carangids and serranids abundant.</p>	<p>Malaysia and Philippines established the Turtle Islands Park for their islands within this group in 1977. Both governments signed an agreement for the Turtle Islands Heritage Park in 1996 under the framework of ASEAN Working Group for Nature Conservation. It appears to be the world's first transboundary marine park. Management plan developed for the Malaysian islands by Sabah Parks. Philippines Baguan island further established and managed as a marine sanctuary by Pawikan (Turtle) Conservation Project of Dept. of Environment and Natural Resources since 1982, An Integrated Conservation and Development Project for the Philippine islands implemented in 1998 by DENR and World Wildlife Fund.</p>	<p>Loss of nesting grounds in most parts of S.E.Asia threaten survival of turtles. Other threats include egg harvesting and capture of adults for food, and incidental trapping.</p>	<p>Monitoring and tagging of turtles nesting, hatchery operations maintained by Sabah Parks. Research on turtle sex ratio carried out by Universiti Malaysia Sabah.</p>	<p>Various activities supported by Sabah Parks, DENR, WWF-Philippines, and MacArthur Foundation. Sabah Parks and DENR awarded J. Paul Getty Prize for Wildlife Conservation in 1996 in recognition of collaborative management effort.</p>
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Semporna Islands MALAYSIA	Located in the Bodgaya group off the east coast of Sabah. Extensive, well-developed reefs. Consideration should be given to include Pulau Sipadan (710 ha) located southeast of Semporna Peninsula as it is Sabah's only true oceanic island.	The reefs support a high diversity of fish and invertebrates such as sponges, soft corals, anemones, mollusks and echinoderms. Diversity reported to be comparable to Australia's Great Barrier Reef. The reefs of Pulau Sipadan are pristine and support great biodiversity. In addition, green turtles nest on the island, which has interesting underwater caves and caverns.	Semporna islands were proposed as a State Marine Park in 1992. Pulau Sipadan was established as a Bird Sanctuary in 1933 and proposed as a State Park.	Some of the Semporna islands are inhabited. Blast fishing has damaged the corals and caused a decline in large fish populations. Pulau Sipadan has a resort where the operators have good management practices in place. The island however, is at the same time being claimed by Indonesia.		
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<p>Pulau Redang Marine Park and Pulau Perhentian Marine Park</p> <p>MALAYSIA</p>	<p>Both areas are small island systems located on the northeast of Peninsula Malaysia, about 23 km from the mainland. They are 26 km apart. Islands have good reef development, sandy beaches, caves, rock cliffs, mangroves and lush tropical forests.</p>	<p>Both island groups have the best reefs of Peninsula Malaysia. High reef species diversity. One of Redang's islands (Pulau Pinang) has the most extensive stand of blue coral, <i>Heliopora</i>. Nesting grounds for turtles. Dolphins common. Occasional visits by migrating whale sharks. Forests dominated by dipterocarps. Over 120 plant species used in traditional medicine. Birds include two species of edible nest swiftlets, sunbirds, tailorbirds and pink-necked pigeons in addition to seabirds. Half of the 16 mammal species are sub-species unique to Redang.</p>	<p>Pulau Redang Marine Park gazetted in 1994. Pulau Perhentian Marine Park established in 1998.</p>	<p>Island development (under State Government jurisdiction) led to sedimentation impacts on reefs of Pulau Redang, at that time proposed as a Marine Park (under Federal Government jurisdiction). This conflict is now resolved with both Government levels accepting in principle, the framework of island ecosystem management to facilitate integrated land and marine planning and management. A recommendation has been proposed for unalienated land on islands to be established as a State Park under a State Enactment, while private land is to be re-purchased where possible for conversion into Park land.</p>	<p>Monitoring carried out by Marine Park Division of the Department of Fisheries. Complemented by research carried out by Universiti Sains Malaysia, Universiti Pertanian Malaysia and several other organizations.</p>	
<p>Mu Ko Similan National Park</p> <p>THAILAND</p>	<p>Located in the Andaman Sea about 50 km from mainland. 12,800 ha. Has 9 granite islands. All islands exhibit contrasting formations between eastern sheltered conditions and western storm-</p>	<p>Diverse fringing reefs, sandy beaches and tropical rain-forest cover of Gum, Saya and Ironwood trees. Forest supports crab-eating macaques (<i>Macaca fascicularis</i>), dusky langurs (<i>Presbytis obscura</i>), grey-bellied squirrels (<i>Callosciurus caniceps</i>). Among the birds are the Nicobar pigeons (<i>Caloenas nicobarica</i>) and Pacific</p>	<p>Declared as National Marine Park in 1982. Two fully staffed park offices established among the islands. Management plan implemented and enforced. All forms of fishing banned.</p>	<p>Reefs affected by previous destructive fishing show healthy recovery.</p>	<p>Reef assessments are conducted by the Fisheries Department as part of a wider national reef survey program.</p>	

	exposed coastline.	reef-egrets (<i>Egretta sacra</i>). Turtles nest on the islands. Seasonal visits around March by large pelagics such as whale sharks, mantas, eagle rays, bonitos, dogtooth tuna and big-eye jacks.				
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Mu Ko Surin National Park THAILAND	Located in the Andaman Sea about 50 km from mainland. 13,500 ha. of which, 24% is occupied by two rocky outcrops and five granite islands with elevation reaching 350 m.	Diverse reefs, assessed as best-developed in Thailand. Have the widest reef flats in the country. High diversity of corals, reef invertebrates and fish. Well-known for diversity of bottlebrush <i>Acropora</i> . Large giant clams of 1.4 m present. Whale sharks and other large pelagics visit the waters seasonally. Mangroves present along southeastern and eastern coastlines. Turtle nesting ground with female hawksbills and greens nesting almost nightly. Islands topped by primary forests supporting crab-eating macaques, flying lemurs, lesser mouse deer and flying foxes. Birds include wreathed hornbills and greater racket-tailed drongo. Over 80 species of birds recorded.	Designated as a National Marine park in 1981. Enforcement of management plan by fully staffed Park Headquarters located on one of the islands. Request issued in 1998 for area to be listed as World Heritage Site.	Not known.	Reef assessments are conducted by the Fisheries Department as part of a wider national reef survey program.	
Con Dao Islands National Park VIETNAM	Area (20,000 ha) consists of a group of 14 small islands, the largest of which is Con Son. Located 220 km offshore. The area has national	The reefs here are in stark contrast to reefs elsewhere in Vietnam. Contains 1000 ha of reefs and 200 ha of seagrass beds. Mangrove system present. Diversity of species includes 200 corals, 202 reef fish, 130 polychaetes, 110 crustaceans, 153	Con Dao Special Use Forest established in 1984. Designation as a National Park in 1993, and management extended to include the marine environment. Considered as best managed national park in Vietnam. Regulations prohibiting destructive fishing enforced by park managers.	Not apparent.	Scientific institutions carried out resource assessments on which marine zonation scheme is based.	World Wildlife Fund supporting a marine turtle rescue program undertaken by Park staff.

	historical significance.	molluscs, 46 echinoderms. Endangered species include turtles and dugongs. Active nesting of turtles. Forest cover over most of the islands is pristine, particularly above 500 m where vegetation is humid hill type.				
Spratly islands (UNDER TERRITORIAL DISPUTE BETWEEN SIX SOUTH CHINA SEA STATES)	Large area in the South China Sea with at least 30 small islands and 600 platform and atoll reefs. Forms effective cluster with Philippine's Tubbatha Reef National Park.	Lies within the highest biodiversity area of the East Asian Seas region, with about 70 scleractinian coral genera. Branching and tabular corals reach 10 m in diameter. Marine turtles nest on the islands, which also support significant seabird populations. Likely to be an important source of larvae and recruits for fish and invertebrates, including commercially important species such as tuna. Has potential of regional and probably global significance for marine biodiversity conservation.	None, although resort management of Pulau Layang Layang (claimed by Malaysia) has some reef protection measures in place to support ecotourism. The South China Sea Forum (brokered by Indonesia) involves all ten South China Sea States (claimants and non-claimants) in regular meetings aimed at building confidence through collaborative programs. Joint scientific projects are formulated as a measure to improve cooperation. Progress however has remained limited.	Six countries of the South China Sea have conflicting claims over the islands. Military garrisons have been erected on some of the islands resulting in some damage to the reefs. In addition, destructive fishing is evident. The greatest management constraint will be non-resolution of territorial claim conflicts and reluctance to consider any agreement on collaborative management.	Biodiversity assessments have been conducted by claimant countries. Vietnam and Philippines have a collaborative marine survey programme.	Many international agencies have expressed concern over the potential degradation of the Spratlys should the present status remain unchanged.